AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-21. (*cancelled*)

22. (*currently amended*) A mixer comprising a flattened and circular housing provided with an annular wall on its periphery;

a rotary disc located in the housing to rotate in a predetermined rotational direction;

a slurry outlet port opening on said annular wall to discharge from the housing, gypsum slurry mixed in the housing;

a hollow connector section with an open end connected to said slurry outlet port and another open end connected to a substantially vertical and cylindrical slurry delivery conduit; ~~and~~

a foam feeding port for feeding foam to the gypsum slurry, and

an attachment having said slurry outlet port, said hollow connector section and said slurry delivery conduit detachably mounted on said annular wall,

wherein said foam feeding port is provided on the annular wall on an upstream side of the slurry outlet port in the rotational direction so as to feed the foam to the gypsum slurry immediately before the gypsum slurry enters said slurry outlet port, or provided on said hollow connector section so as to feed the foam to the gypsum slurry flowing in the hollow connector section.

23. (*previously presented*) The mixer as defined in claim 22, wherein said slurry delivery conduit is provided with its inside area having a circular transverse cross-section, and said hollow connector section is connected to the slurry delivery conduit in a position eccentric to a center axis of the slurry delivery conduit, whereby the gypsum slurry swirls in said inside area.

24. (*previously presented*) The mixer as defined in claim 22, wherein said slurry outlet port is provided with a plurality of blades which impose shearing force on the slurry flowing through the slurry outlet port, and said blades form a plurality of slits in the slurry outlet port.

25. (*previously presented*) The mixer as defined in claim 22, wherein said slurry outlet port causes the gypsum slurry to flow into said hollow connector section in a tangential direction with respect to said annular wall.

26. (*previously presented*) The mixer as defined in claim 24, wherein said slits are formed by said blades having a thickness (t) ranging from 1 mm to 5 mm, which are arranged at equal intervals, and a fluid passage dimension (h, w) of said slit between said blades is set to be in a range from 4 mm to 15 mm.

27. (*previously presented*) The mixer as defined in claim 24, wherein said blades are positioned horizontally or vertically.

28. (*previously presented*) The mixer as defined in claim 22, wherein said hollow connector section has wall surfaces (47a, 47b) on sides upstream and downstream in the rotational direction, these wall surfaces forming a slurry passage in said hollow connector section, and said wall surface (47a) on the upstream side is oriented at an angle ranging from 90°to 120°with respect to a normal line (G) of said housing.

29. (*previously presented*) The mixer as defined in claim 28, wherein said foam feeding port is disposed on said wall surface (47a) on the upstream side.

30. (*previously presented*) The mixer as defined in claim 28, wherein said wall surfaces (47a, 47b) on the upstream and downstream sides are parallel with each other.

31. (*previously presented*) The mixer as defined in claim 28, wherein said wall surface (47b) on the downstream side is positioned at a sharp angle relative to a circumferential inside surface of said annular wall so as to prevent the gypsum slurry in the slurry passage of said hollow connector section from flowing backward or returning into said housing.

32. (*previously presented*) The mixer as defined in claim 23, wherein said hollow connector section is connected to said slurry delivery conduit so as to cause the gypsum slurry to flow thereinto in a tangential direction of said inside area.

33. (*previously presented*) The mixer as defined in claim 23, wherein said hollow connector section is connected to said slurry delivery conduit in a position eccentric to the center axis of the slurry delivery conduit, so that the gypsum slurry in said inside area swirls in a direction opposite to the rotational direction of said disc.

34. (*previously presented*) The mixer as defined in claim 23, wherein said hollow connector section is connected to said slurry delivery conduit in a position eccentric to the center axis of the slurry delivery conduit, so that the gypsum slurry in said inside area swirls in the same direction as the rotational direction of said disc.

35. (*canceled*)

36. (*currently amended*) A method of mixing gypsum slurry with use of a mixer ~~for gypsum slurry, the mixer comprising a flattened and circular housing provided with an annular wall on its periphery; a rotary disc located in the housing and rotated in a predetermined rotational direction; a slurry outlet port opening on said annular wall for discharging from the housing, gypsum slurry mixed in the housing; a hollow connector section with an open end connected to said slurry outlet port and another open end connected to a substantially vertical and cylindrical slurry delivery conduit; and a foam feeding port for feeding foam to the gypsum slurry~~ as defined in claim 22, comprising:

a first mixing step of mixing powder material and water, which are fed into said housing, in a mixing area within said housing with rotation of said disc to prepare the slurry~~, and causing said slurry to flow through said slurry outlet port to the hollow connector section~~; and

a second mixing step of feeding the foam to the gypsum slurry from the foam feeding port, ~~which is located on the annular wall on an upstream side of the slurry outlet port in the rotational direction so as to feed the foam to the gypsum slurry immediately before the gypsum slurry enters the slurry outlet port, or which is located in the hollow connector section so as to feed the foam to the gypsum slurry in the hollow connector section,~~ and imposing shearing force on the slurry and the foam at said slurry outlet port or on its downstream side so as to mix the slurry and the foam.

37. (*previously presented*) The method as defined in claim 36, wherein the foam is fed to the gypsum slurry immediately before or immediately after the slurry flows through said slurry outlet port, and fluid of the slurry and the foam eccentric to an inside area of said slurry delivery conduit having a circular transverse cross-section is induced to enter said inside area in a tangential direction thereof, so that the slurry and the foam are induced to swirl in said inside area and they are mixed with each other by shearing force acting on the slurry during swirling.

38. (*previously presented*) The method as defined in claim 36, wherein a plurality of blades forming a plurality of slits are disposed in said slurry outlet port, and the foam is fed to the slurry immediately before the slurry passes through said slits so as to cause the slurry and the foam to mix with each other by shearing force acting on the slurry passing through the slits.

39. (*previously presented*) The method as defined in claim 36, wherein a plurality of blades forming a plurality of slits are disposed in said slurry outlet port, the foam is fed to the slurry immediately before the slurry passes through said slits so as to cause the slurry and the foam to mix with each other by shearing force acting on the slurry passing through the slits, and fluid of the slurry and the foam eccentric to an inside area of said slurry delivery conduit having a circular transverse cross-section is induced to enter the inside area in a tangential direction thereof, so that the slurry and the foam are induced to swirl in said inside area and they are further mixed with each other by shearing force acting on said slurry during swirling.

40. (*previously presented*) The method as defined in claim 36, wherein the gypsum slurry in a peripheral zone of said mixing area is induced to flow into said hollow connector section through said slurry outlet port in a tangential direction of said annular wall.

41. (*previously presented*) A method of producing gypsum boards with use of the mixer as defined in claim 22, wherein gypsum boards having a thickness of 9.5 mm and a width of 910 mm are produced at a production rate equal to or higher than 110 m^3/minute.

42. (*previously presented*) A method of producing gypsum boards with use of the mixer as defined in claim 22, wherein the gypsum slurry at a flow rate equal to or higher than 1 m^3/minute is fed between sheets of paper for gypsum board liner passing through forming means.

43. (*previously presented*) The mixer as defined in claim 23, wherein said slurry outlet port is provided with a plurality of blades which impose shearing force on the slurry flowing through the slurry outlet port, and said blades form a plurality of slits in the slurry outlet port.

44. (*previously presented*) The mixer as defined in claim 43, wherein said slurry outlet port causes the gypsum slurry to flow into said hollow connector section in a tangential direction with respect to said annular wall.

45. (*previously presented*) The mixer as defined in claim 43, wherein said slits are formed by said blades having a thickness (t) ranging from 1 mm to 5 mm, which are arranged at equal intervals, and a fluid passage dimension (h, w) of said slit between said blades is set to be in a range from 4 mm to 15 mm.

46. (*previously presented*) The mixer as defined in claim 43, wherein said blades are positioned horizontally or vertically.

47. (*previously presented*) The mixer as defined in claim 43, wherein said hollow connector section has wall surfaces (47a, 47b) on sides upstream and downstream in the rotational direction, these wall surfaces forming a slurry passage in said hollow connector section, and said wall surface (47a) on the upstream side is oriented at an angle ranging from 90°to 120° with respect to a normal line (G) of said housing.

48. (*previously presented*) A method of producing gypsum boards with use of the mixer as defined in claim 23, wherein gypsum boards having a thickness of 9.5 mm and a width of 910 mm are produced at a production rate equal to or higher than 110 m^3/minute.

49. (*previously presented*) A method of producing gypsum boards with use of the mixer as defined in claim 23, wherein the gypsum slurry at a flow rate equal to or higher than 1 m^3/minute is fed between sheets of paper for gypsum board liner passing through forming means.

50. (*new*) A mixer comprising a flattened and circular housing provided with an annular wall on its periphery;

a rotary disc located in the housing to rotate in a predetermined rotational direction;

a slurry outlet port opening on said annular wall to discharge from the housing, gypsum slurry mixed in the housing;

a hollow connector section with an open end connected to said slurry outlet port and another open end connected to a substantially vertical and cylindrical slurry delivery conduit; and

a foam feeding port for feeding foam to the gypsum slurry,

wherein said foam feeding port is provided on the annular wall on an upstream side of the slurry outlet port in the rotational direction so as to feed the foam to the gypsum slurry immediately before the gypsum slurry enters said slurry outlet port;

wherein an angle (θ_2) around a center axis of the disc between a center of said foam feeding port and an edge portion (J) of said slurry outlet port on the upstream side in the rotational direction is set to be in a range from 0° to 30°; and

wherein said slurry outlet port is provided with a plurality of blades, which impose shearing force on the slurry flowing through the slurry outlet port and which form a plurality of slits in the slurry outlet port.

51. (*new*) The mixer as defined in claim 50, wherein said slurry delivery conduit is provided with its inside area having a circular transverse cross-section, and said hollow connector section is connected to the slurry delivery conduit in a position eccentric to a center axis of the slurry delivery conduit, whereby the gypsum slurry swirls in said inside area.

52. (*new*) The mixer as defined in claim 50, wherein said slurry outlet port causes the gypsum slurry to flow into said hollow connector section in a tangential direction with respect to said annular wall.

53. (*new*) The mixer as defined in claim 50, wherein said slits are formed by said blades having a thickness (t) ranging from 1 mm to 5 mm, which are arranged at equal intervals, and a fluid passage dimension (h, w) of said slit between said blades is set to be in a range from 4 mm to 15 mm.

54. (*new*) The mixer as defined in claim 50, wherein said blades are positioned horizontally or vertically.

55. (*new*) The mixer as defined in claim 50, wherein said hollow connector section has wall surfaces (47a, 47b) on sides upstream and downstream in the rotational direction, these wall surfaces forming a slurry passage in said hollow connector section, and said wall surface (47a) on the upstream side is oriented at an angle ranging from 90° to 120° with respect to a normal line (G) of said housing.

56. (*new*) The mixer as defined in claim 55, wherein said wall surfaces (47a, 47b) on the upstream and downstream sides are parallel with each other.

57. (*new*) The mixer as defined in claim 55, wherein said wall surface (47b) on the downstream side is positioned at a sharp angle relative to a circumferential inside surface of said annular wall so as to prevent the gypsum slurry in the slurry passage of said hollow connector section from flowing backward or returning into said housing.

58. (*new*) The mixer as defined in claim 51, wherein said hollow connector section is connected to said slurry delivery conduit so as to cause the gypsum slurry to flow thereinto in a tangential direction of said inside area.

59. (*new*) The mixer as defined in claim 51, wherein said hollow connector section is connected to said slurry delivery conduit in a position eccentric to the center axis of the slurry delivery conduit, so that the gypsum slurry in said inside area swirls in a direction opposite to the rotational direction of said disc.

60. (*new*) The mixer as defined in claim 51, wherein said hollow connector section is connected to said slurry delivery conduit in a position eccentric to the center axis of the slurry delivery conduit, so that the gypsum slurry in said inside area swirls in the same direction as the rotational direction of said disc.

61. (*new*) A method of mixing gypsum slurry with use of a mixer as defined in claim 50, comprising:

a first mixing step of mixing powder material and water, which are fed into said housing, in a mixing area within said housing with rotation of said disc to prepare the gypsum slurry; and

a second mixing step of feeding the foam to the gypsum slurry immediately before the slurry passes through said slits so as to cause the slurry and the foam to mix with each other by shearing force acting on the slurry passing through the slits.

62. (*new*) The method as defined in claim 61, wherein the gypsum slurry in a peripheral zone of said mixing area is induced to flow into said hollow connector section through said slurry outlet port in a tangential direction of said annular wall.

63. (*new*) A method of producing gypsum boards with use of the mixer as defined in claim 50, wherein gypsum boards having a thickness of 9.5 mm and a width of 910 mm are produced at a production rate equal to or higher than 110 m/minute.

64. (*new*) A method of producing gypsum boards with use of the mixer as defined in claim 50, wherein the gypsum slurry at a flow rate equal to or higher than 1 m^3/minute is fed between sheets of paper for gypsum board liner passing through forming means.